

## Maintenance and check

**This chapter describes the possible causes of troubles you may encounter and the actions to be taken against them.**

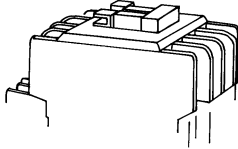
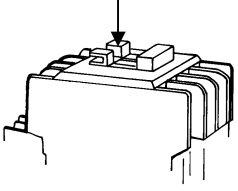


Never fail to examine the causes of any trouble and take remedies after allowing the molder to cool for 5 hr after stopping. (Use gloves.)

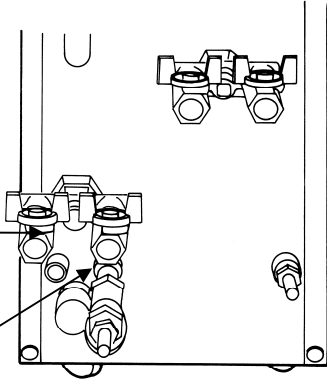
It is very dangerous during and immediately after operations becomes it is very hot. Should any burn occur due to negligence of the above, immediately cool the very part with cold fresh water and seek prompt medical treatment.

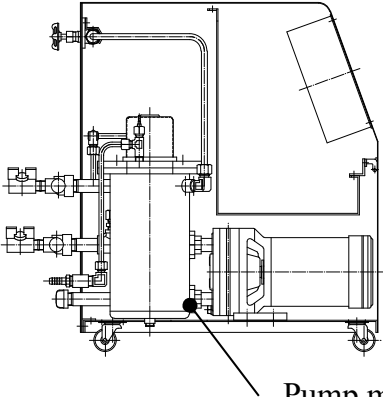
Checking operations should be made only by authorized personnel.

### 1. Daily maintenance and check

Items	Content of Operation
<p>Check of the electromagnetic contact unit (heater relay)</p> <p>❖ Confirms the condition (deposit) of breaker points.</p>	<p>When the breaker points does deposit, <u>it causes fire occurrence and becomes an terrible dangerous condition.</u></p> <p>If the electromagnetic contact unit becomes the condition of figure 10.1, <u>quickly, replaced to new parts.</u></p> <p><u>And, until the parts replace completes, don't start the unit ever.</u></p> <p style="text-align: center;">Figure 10.1</p> <p style="text-align: center;">The condition as the center section was hollow when the unit stops.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Normal condition</p> </div> <div style="text-align: center;">  <p>Abnormal deposit condition</p> </div> </div> <p style="text-align: center;"><b>NOTE</b></p> <ol style="list-style-type: none"> <li>1. The form sometimes differs on the model.</li> <li>2. The above figure is the figure condition that saw the electromagnetic contact unit from diagonal front.</li> <li>3. Even if there is not abnormal, <u>the switching times of the breaker points replace at 1,000,000 times or within 1 year of using term.</u></li> </ol>

## 2. Monthly maintenance and check

Items	Content of Operation
<p>Medium check for GMCL, H type</p>	<p>Collect a proper amount of medium (water) from the drain port and check the water contamination.  <u>Set a collecting vessel under the drain port, and drain and exchange the medium.</u></p> <p style="text-align: center;">Figure 10.2</p>  <p>Remove the cap of drain port, and drain medium.</p> <p>Remove the plug and clean up the strainer after closing the water supply source valve of your facilities.</p>
<p>Medium check for GMCA type</p>	<p>Pull out oil of the unit and check a dirty condition.  <u>Exchange if the total acid value is more than 0.5 mg KOH /g.</u></p> <p style="text-align: center;">&lt;Reference&gt;</p> <p style="text-align: center;">When there are many use frequencies, in the monthly.  When little, in the half year, once, exchange all quantity.</p>

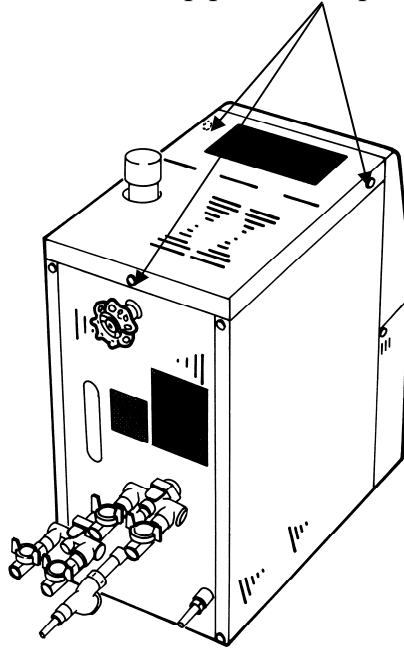
Items	Content of Operation
Hose check	<p>Check the medium leakage from the vicinity of joint hardware, deformations (Crush or bulge), flaws, cracks, wear and abnormal hardening. <u>Replace the hose if the medium leakage occurs by flaws.</u></p> <p>❖ The available temperature of each hose is as follows.</p> <ul style="list-style-type: none"> <li>• Rubber hose for L (Use only for hot water) : 95°C</li> <li>• Rubber hose for H (Use only for hot water) : 120°C</li> <li>• Teflon hose (Use for high temperature water, oil) : 200°C</li> </ul> <p><u>The hose will wear and tear early if use the hose around the temperature as described above (from temperature 20°C lower than the above to the above temperature).</u> <u>Replace the hose if abnormal conditions are found at the time of check.</u> <u>Replace every hose within a year (Teflon hose: within 1.5 years) as a guideline, if also using under lower temperature than it.</u></p>
Cleaning of pump mechanical drain	<p style="text-align: center;">Figure 10.3</p> <div style="text-align: center;">  </div> <p style="text-align: right;">Pump mechanical drain</p> <p>Remove the left sideboards of unit and clean the medium accumulated in the pump mechanical drain.</p> <p style="text-align: center;">&lt;Reference&gt;</p> <p>The pump mechanical seal can not seal completely, about 4~5 drops of medium may leak per hour.</p>

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### 3. Maintenance and check for every three months

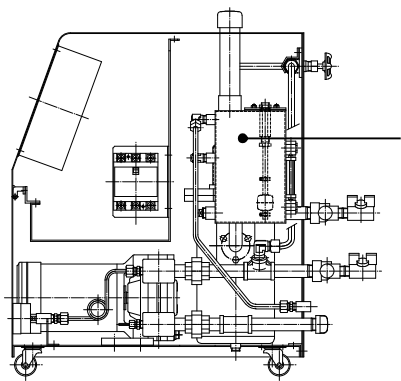
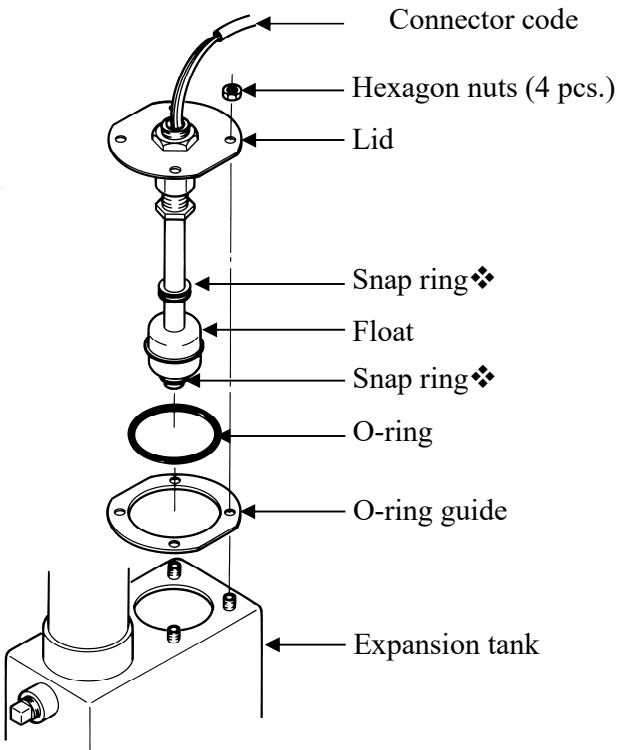
When the float switch (L, H type) and the float switch (A type) of expansion tank checks, remove the top plate according to the following procedure.

When the eyebolts (3 pcs.) remove, can remove the top plate.  
Also when remove the top plate, can open the control panel door.



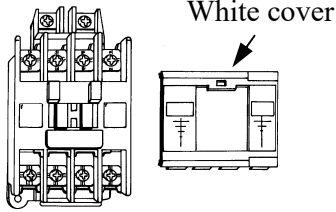
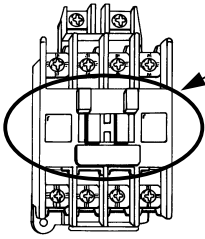
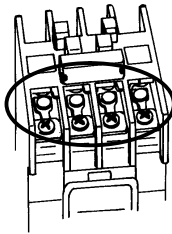

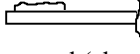
**Figure 10.4**

Items	Content of Operation
Float switch check (GMCL, H type)	<p data-bbox="553 226 1404 273">Check a float switch by the following procedure.</p> <p data-bbox="553 304 1404 430">Remove the lid after remove the connector cord of float switch box, and check the internal contamination of the float switch and whether the float moves smoothly.</p> <div data-bbox="662 478 1344 907" style="text-align: center;"> <p data-bbox="1104 714 1344 787">❖ Do not remove the snap ring</p> </div> <p data-bbox="893 907 1055 945"><b>Figure 10.5</b></p> <p data-bbox="553 987 1404 1102"><u>Take out the float switch and clean it up if the float does not move smoothly because of depositing impurities to the float part.</u></p> <p data-bbox="553 1144 1404 1260">It is need to replace the float switch when the float switch does not move smoothly by the deformation of the float. (Model; OLV-25S-1P L75)</p> <p data-bbox="553 1270 1404 1386">And replace the O-ring of the lid if it becomes deformed or hardened (the state lacking elasticity and being cracked when bending).</p>

Items	Content of Operation
<p>Float switch check (GMCA type)</p>	<p>Check the float switch of expansion tank by the following procedure. Figure 10.6</p>  <p style="text-align: center;">↓</p> <p>Check for contamination inside the float switch and smooth move of the switch after detaching the connector cord and removing the lid.</p>  <p style="text-align: center;"><b>Figure 10.7</b></p> <p style="text-align: right;">❖ Don't remove the Snap ring.</p>

<b>Items</b>	<b>Content of Operation</b>
Float switch check (GMCA type)	<p>Take out the float switch and clean it up if the float does not <u>move smoothly because of depositing impurities to the float part.</u></p> <p>It is need to replace the float switch when the float switch does not move smoothly by the deformation of the float. (Model; OLV-25S-1P L170)</p> <p>And replace the O-ring of the lid if it becomes deformed or hardened (the state lacking elasticity and being cracked when bending).</p>
Bolts and nuts of each unit	<p>Look for bolts and nuts of each unit that have worked loose. Tighten the loosened ones.</p>
Terminals for loose connection	<p>After remove the top plate of unit, open the control panel door.</p> <p style="text-align: center;">↓</p> <p>Performs to rising fastens after check that the wiring of control panel and heater part loosens.</p>

#### 4. Maintenance and check for every six months

Items	Content of Operation
<p>Checking for electromagnetic contractor (heater relay)</p> <p>❖ Check of condition of connecting point (abrasion)</p>	<p>Open the control panel of the unit after turning OFF the control panel [ON/OFF] switch and shutting down the power breaker.</p> <p style="text-align: center;">↓</p> <p>Replace white cover of Electromagnetic contractor (Figure 10.7B). You can replace the cover easily by pulling it toward you.</p> <p style="text-align: right;"><b>Figure 10.7B</b></p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div data-bbox="711 621 847 674" style="border: 1px solid black; padding: 2px; text-align: center;"><b>NOTE</b></div> <div data-bbox="1052 583 1386 793">  </div> </div> <p>Some types of the unit do not have white covers.</p> <p style="text-align: center;">↓</p> <p>Connecting point of the electromagnetic contractor is inside the component shown in Fig.10.8. Light one side of the terminal connecting section on the skew by a flashlight or like and check the condition of the point (Fig. 10.9). <u>Replace immediately when it has discolored into blackish, and has abrasion like Fig. 10.10.</u></p>
<p style="text-align: center;"><b>Figure 10.8</b></p>  <p style="text-align: center;">Connecting section is inside it.</p>	<p style="text-align: center;"><b>Figure 10.9</b> Skew view of terminal connecting section</p>  <p style="text-align: center;"><b>Figure 10.10</b> Conditions of connecting</p> <div style="display: flex; flex-direction: column; align-items: center;">  <p><b>Normal</b></p>  <p>Abnormal (abrasion)</p> </div> <p style="text-align: center;">&lt;Note&gt; The upper figures are side views of the connecting points.</p>